

ADVANCED SUBSIDIARY GCE

APPLIED SCIENCE

Unit 4: Cells and Molecules

PLAN FOR AN INVESTIGATION

INSERT

G623/INSERT

For issue on or after: **FRIDAY 13 MARCH 2009**



INSTRUCTIONS TO CANDIDATES

- The abstracts on page 2 of this insert are to give you some background that you might find helpful in planning for the task that follows. Not all the information included will be directly relevant and you are expected to select the information which is relevant to the task.

INFORMATION FOR CANDIDATES

- This document consists of 2 pages. Any blank pages are indicated.

Abstract 1:

A common enzyme known as papain is obtained from the green papaya (pawpaw) fruit. Enzymes are proteins that can increase the rate of biological changes such as the ripening of fruit. At the end of an enzyme catalysed reaction the enzyme itself is unchanged and is able to react again.

Enzymes occur naturally in foods and many traditional food processing technologies involve the use of enzymes. Today, with more advanced knowledge of food science these enzymes can be extracted, concentrated and added to foods during processing (e.g. meat tenderisers).

One important group of enzymes are called proteases. These are enzymes which catalyse the breakdown of proteins. Chillproofing of beer, tenderisation of meat and the production of dough for pizzas and batters for waffles and wafers are applications of proteases in the food processing industry. The most common of these proteases is papain.

www.itdg.org/docs/technical_information_service/papain.pdf

Abstract 2:**Photographic film**

The silver grains on fogged and developed film are embedded in a thin layer of gelatin. The gelatin is supported by a thin sheet of translucent acetate sheet.

Anon

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